1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A041,19101109B041

% Moisture: 26. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	45.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	45.	U
37324-23-5	Aroclor-1262	45.	U
11100-14-4	Aroclor-1268	45.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764012

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A042,19101109B042

% Moisture: 28. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	46.	U
11104-28-2	Aroclor-1221	46.	U
11141-16-5	Aroclor-1232	46.	U
53469-21-9	Aroclor-1242	46.	U
12672-29-6	Aroclor-1248	46.	U
11097-69-1	Aroclor-1254	46.	U
11096-82-5	Aroclor-1260	46.	U
37324-23-5	Aroclor-1262	46.	U
11100-14-4	Aroclor-1268	46.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764013

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A043,19101109B043

% Moisture: 41. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	56.	U
11104-28-2	Aroclor-1221	56.	U
11141-16-5	Aroclor-1232	56.	U
53469-21-9	Aroclor-1242	56.	U
12672-29-6	Aroclor-1248	56.	U
11097-69-1	Aroclor-1254	56.	U
11096-82-5	Aroclor-1260	56.	U
37324-23-5	Aroclor-1262	56.	U
11100-14-4	Aroclor-1268	56.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764014

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A044,19101109B044

% Moisture: 41. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	56.	U
11104-28-2	Aroclor-1221	56.	U
11141-16-5	Aroclor-1232	56.	U
53469-21-9	Aroclor-1242	56.	U
12672-29-6	Aroclor-1248	56.	U
11097-69-1	Aroclor-1254	56.	U
11096-82-5	Aroclor-1260	56.	U
37324-23-5	Aroclor-1262	56.	U
11100-14-4	Aroclor-1268	56.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35F9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A045,19101109B045

% Moisture: 28. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	46.	U
11104-28-2	Aroclor-1221	46.	U
11141-16-5	Aroclor-1232	46.	U
53469-21-9	Aroclor-1242	46.	U
12672-29-6	Aroclor-1248	46.	U
11097-69-1	Aroclor-1254	46.	U
11096-82-5	Aroclor-1260	46.	U
37324-23-5	Aroclor-1262	46.	U
11100-14-4	Aroclor-1268	46.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764016

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A046,19101109B046

% Moisture: 23. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	43.	U
11104-28-2	Aroclor-1221	43.	U
11141-16-5	Aroclor-1232	43.	U
53469-21-9	Aroclor-1242	43.	U
12672-29-6	Aroclor-1248	43.	U
11097-69-1	Aroclor-1254	43.	U
11096-82-5	Aroclor-1260	43.	U
37324-23-5	Aroclor-1262	43.	U
11100-14-4	Aroclor-1268	43.	U

KEA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764017

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A047,19101109B047

% Moisture: 73. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	120	U	UJ
11104-28-2	Aroclor-1221	120	U	UJ
11141-16-5	Aroclor-1232	120	U	UJ
53469-21-9	Aroclor-1242	120	U	UJ
12672-29-6	Aroclor-1248	120	U	UJ
11097-69-1	Aroclor-1254	120	U	UJ
11096-82-5	Aroclor-1260	120	U	UJ
37324-23-5	Aroclor-1262	120	U	UJ
11100-14-4	Aroclor-1268	120	U	UJ

K&A
1/10/11

000456

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764018

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A048,19101109B048

% Moisture: 36. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	51.	U
11104-28-2	Aroclor-1221	51.	U
11141-16-5	Aroclor-1232	51.	U
53469-21-9	Aroclor-1242	51.	U
12672-29-6	Aroclor-1248	51.	U
11097-69-1	Aroclor-1254	51.	U
11096-82-5	Aroclor-1260	51.	U
37324-23-5	Aroclor-1262	51.	U
11100-14-4	Aroclor-1268	51.	U

KSA
1/10/11

000457

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764019

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A049,19101109B049

% Moisture: 19. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35E5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030764020

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101109A050,19101109B050

% Moisture: 27. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/11/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	45.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	45.	U
37324-23-5	Aroclor-1262	45.	U
11100-14-4	Aroclor-1268	45.	U

KSA
1/10/11

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ALS Laboratory Group	EPW05026	H35G5	

Review Assigned Date: November 23, 2010 Data Validator: Fred Luck
Review Completion Date: December 2, 2010 Report Reviewer: Lesley Boyd

Sample ID	Matrix	Analysis
H35G5	Sediment	CLP – Aroclors
H35G6		
H35G7		
H35G8		
H35G9		
H35H0		
H35H1		
H35H2		
H35H3		
H35H4		
H35H5		
H35H6		
H35H8	Mine Sediment	
H35H9		
H35J0	Sediment	

Sample ID	Matrix	Analysis
H35J2	Mine Sediment	CLP – Aroclors
H35J3	Sediment	
H35J4	Soil - Surface	
H35J5		
H35J6		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X___ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H35G5, consisted of 20 sediment / mine sediment / soil samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H35J3	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes X No____

All preservation criteria were met.

AROCLOR: Yes___ No X

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes X No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations 100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H35G6. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X_

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

None of the target analyses were identified in any of the samples. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed

AROCLOR: Yes___ No_X_

Comments: No targeted Aroclors were detected in any of the field samples; therefore GC/MS confirmation is not required.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H35J3 was determined to be 81%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) An unnumbered page was located immediately following page 75. This is the first chromatogram for sample H35J6.
2) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R - Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

U J - The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.

N J - Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

000469

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A028,31101109B028

% Moisture: 17. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	40.	U
11104-28-2	Aroclor-1221	40.	U
11141-16-5	Aroclor-1232	40.	U
53469-21-9	Aroclor-1242	40.	U
12672-29-6	Aroclor-1248	40.	U
11097-69-1	Aroclor-1254	40.	U
11096-82-5	Aroclor-1260	40.	U
37324-23-5	Aroclor-1262	40.	U
11100-14-4	Aroclor-1268	40.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765002

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A029,31101109B029

% Moisture: 27. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	45.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	45.	U
37324-23-5	Aroclor-1262	45.	U
11100-14-4	Aroclor-1268	45.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A032,31101109B032

% Moisture: 62. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	87.	U
11104-28-2	Aroclor-1221	87.	U
11141-16-5	Aroclor-1232	87.	U
53469-21-9	Aroclor-1242	87.	U
12672-29-6	Aroclor-1248	87.	U
11097-69-1	Aroclor-1254	87.	U
11096-82-5	Aroclor-1260	87.	U
37324-23-5	Aroclor-1262	87.	U
11100-14-4	Aroclor-1268	87.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765006

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A033,31101109B033

% Moisture: 22. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	42.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U
37324-23-5	Aroclor-1262	42.	U
11100-14-4	Aroclor-1268	42.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35G9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765007

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A034,31101109B034

% Moisture: 55. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	74.	U
11104-28-2	Aroclor-1221	74.	U
11141-16-5	Aroclor-1232	74.	U
53469-21-9	Aroclor-1242	74.	U
12672-29-6	Aroclor-1248	74.	U
11097-69-1	Aroclor-1254	74.	U
11096-82-5	Aroclor-1260	74.	U
37324-23-5	Aroclor-1262	74.	U
11100-14-4	Aroclor-1268	74.	U

LSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A035,31101109B035

% Moisture: 44. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	58.	U
11104-28-2	Aroclor-1221	58.	U
11141-16-5	Aroclor-1232	58.	U
53469-21-9	Aroclor-1242	58.	U
12672-29-6	Aroclor-1248	58.	U
11097-69-1	Aroclor-1254	58.	U
11096-82-5	Aroclor-1260	58.	U
37324-23-5	Aroclor-1262	58.	U
11100-14-4	Aroclor-1268	58.	U

LA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A036,31101109B036

% Moisture: 36. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	52.	U
11104-28-2	Aroclor-1221	52.	U
11141-16-5	Aroclor-1232	52.	U
53469-21-9	Aroclor-1242	52.	U
12672-29-6	Aroclor-1248	52.	U
11097-69-1	Aroclor-1254	52.	U
11096-82-5	Aroclor-1260	52.	U
37324-23-5	Aroclor-1262	52.	U
11100-14-4	Aroclor-1268	52.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A037,31101109B037

% Moisture: 60. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	82.	U
11104-28-2	Aroclor-1221	82.	U
11141-16-5	Aroclor-1232	82.	U
53469-21-9	Aroclor-1242	82.	U
12672-29-6	Aroclor-1248	82.	U
11097-69-1	Aroclor-1254	82.	U
11096-82-5	Aroclor-1260	82.	U
37324-23-5	Aroclor-1262	82.	U
11100-14-4	Aroclor-1268	82.	U

VgA
11/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A038,31101109B038

% Moisture: 24. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KSA
11/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765012

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A039,31101109B039

% Moisture: 54. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	71.	U
11104-28-2	Aroclor-1221	71.	U
11141-16-5	Aroclor-1232	71.	U
53469-21-9	Aroclor-1242	71.	U
12672-29-6	Aroclor-1248	71.	U
11097-69-1	Aroclor-1254	71.	U
11096-82-5	Aroclor-1260	71.	U
37324-23-5	Aroclor-1262	71.	U
11100-14-4	Aroclor-1268	71.	U

LSA
11/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765013

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A040,31101109B040

% Moisture: 45. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	60.	U
11104-28-2	Aroclor-1221	60.	U
11141-16-5	Aroclor-1232	60.	U
53469-21-9	Aroclor-1242	60.	U
12672-29-6	Aroclor-1248	60.	U
11097-69-1	Aroclor-1254	60.	U
11096-82-5	Aroclor-1260	60.	U
37324-23-5	Aroclor-1262	60.	U
11100-14-4	Aroclor-1268	60.	U

KSA
11/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765014

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A041,31101109B041

% Moisture: 52. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	69.	U
11104-28-2	Aroclor-1221	69.	U
11141-16-5	Aroclor-1232	69.	U
53469-21-9	Aroclor-1242	69.	U
12672-29-6	Aroclor-1248	69.	U
11097-69-1	Aroclor-1254	69.	U
11096-82-5	Aroclor-1260	69.	U
37324-23-5	Aroclor-1262	69.	U
11100-14-4	Aroclor-1268	69.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A042,31101109B042

% Moisture: 60. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	82.	U
11104-28-2	Aroclor-1221	82.	U
11141-16-5	Aroclor-1232	82.	U
53469-21-9	Aroclor-1242	82.	U
12672-29-6	Aroclor-1248	82.	U
11097-69-1	Aroclor-1254	82.	U
11096-82-5	Aroclor-1260	82.	U
37324-23-5	Aroclor-1262	82.	U
11100-14-4	Aroclor-1268	82.	U

12_3A
11/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765016

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A043;31101109B043

% Moisture: 67. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	99.	U
11104-28-2	Aroclor-1221	99.	U
11141-16-5	Aroclor-1232	99.	U
53469-21-9	Aroclor-1242	99.	U
12672-29-6	Aroclor-1248	99.	U
11097-69-1	Aroclor-1254	99.	U
11096-82-5	Aroclor-1260	99.	U
37324-23-5	Aroclor-1262	99.	U
11100-14-4	Aroclor-1268	99.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765017

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A044,31101109B044

% Moisture: 21. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	42.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U
37324-23-5	Aroclor-1262	42.	U
11100-14-4	Aroclor-1268	42.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765018

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A045,31101109B045

% Moisture: 63. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	89.	U
11104-28-2	Aroclor-1221	89.	U
11141-16-5	Aroclor-1232	89.	U
53469-21-9	Aroclor-1242	89.	U
12672-29-6	Aroclor-1248	89.	U
11097-69-1	Aroclor-1254	89.	U
11096-82-5	Aroclor-1260	89.	U
37324-23-5	Aroclor-1262	89.	U
11100-14-4	Aroclor-1268	89.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765019

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A046,31101109B046

% Moisture: 81. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	170	U	UJ
11104-28-2	Aroclor-1221	170	U	UJ
11141-16-5	Aroclor-1232	170	U	UJ
53469-21-9	Aroclor-1242	170	U	UJ
12672-29-6	Aroclor-1248	170	U	UJ
11097-69-1	Aroclor-1254	170	U	UJ
11096-82-5	Aroclor-1260	170	U	UJ
37324-23-5	Aroclor-1262	170	U	UJ
11100-14-4	Aroclor-1268	170	U	UJ

KSA
1/10/11

000486

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765020

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A047,31101109B047

% Moisture: 15. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765021

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A048,31101109B048

% Moisture: 16. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

KSA
11/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35G5

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030765022

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 31101109A049,31101109B049

% Moisture: 35. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/10/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	51.	U
11104-28-2	Aroclor-1221	51.	U
11141-16-5	Aroclor-1232	51.	U
53469-21-9	Aroclor-1242	51.	U
12672-29-6	Aroclor-1248	51.	U
11097-69-1	Aroclor-1254	51.	U
11096-82-5	Aroclor-1260	51.	U
37324-23-5	Aroclor-1262	51.	U
11100-14-4	Aroclor-1268	51.	U

K3A
1/10/11

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ALS Laboratory Group	EPW05026	H35H7	

Review Assigned Date: November 23, 2010 Data Validator: Fred Luck
Review Completion Date: December 14, 2010 Report Reviewer: Lesley Struthers

Sample ID	Matrix	Analysis
H35H7	Sediment	CLP – Aroclors
H35J7	Soil - Surface	
H35J8		
H35J9		
H35K0		
H35K1		
H35K2		
H35K3		
H35K4		
H35K5		
H35K6		
H35K7		
H35K8	Sediment	
H35K9		
H35L0		
H35L1		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H35H7, consisted of 16 sediment / surface soil samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H35K9	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes_X_ No____

All preservation criteria were met.

AROCLOR: Yes___ No_X_

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes_X_ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H35H7. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X_

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

The chromatograms do display the largest peak of any detected Aroclors at less than full scale. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed

AROCLOR: Yes___ No_X_

Comments: The on-column concentrations for each individual peak belonging to an Aroclor were reviewed for the raw data associated with each Form I ARO for the SDG. None of these raw concentrations equaled or exceeded 10 ng/µL, which equates to 10 µg/mL, therefore none of the on-column concentrations are adequate to necessitate approaching the Region to obtain permission to perform GC/MS confirmation.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H35K9 was determined to be 81%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35H7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A035,20101108B035

% Moisture: 18. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	40.	U
11104-28-2	Aroclor-1221	40.	U
11141-16-5	Aroclor-1232	40.	U
53469-21-9	Aroclor-1242	40.	U
12672-29-6	Aroclor-1248	40.	U
11097-69-1	Aroclor-1254	40.	U
11096-82-5	Aroclor-1260	40.	U
37324-23-5	Aroclor-1262	40.	U
11100-14-4	Aroclor-1268	40.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766004

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A038,20101108B038

% Moisture: 35. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	51.	U
11104-28-2	Aroclor-1221	51.	U
11141-16-5	Aroclor-1232	51.	U
53469-21-9	Aroclor-1242	51.	U
12672-29-6	Aroclor-1248	51.	U
11097-69-1	Aroclor-1254	51.	U
11096-82-5	Aroclor-1260	51.	U
37324-23-5	Aroclor-1262	51.	U
11100-14-4	Aroclor-1268	51.	U

KA
1/10/11

1H - FORM I ARO

000500

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A039,20101108B039

% Moisture: 22. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	42.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	42.	U
37324-23-5	Aroclor-1262	42.	U
11100-14-4	Aroclor-1268	42.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35J9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766006

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A040,20101108B040

% Moisture: 34. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	50.	U
11104-28-2	Aroclor-1221	50.	U
11141-16-5	Aroclor-1232	50.	U
53469-21-9	Aroclor-1242	50.	U
12672-29-6	Aroclor-1248	50.	U
11097-69-1	Aroclor-1254	50.	U
11096-82-5	Aroclor-1260	50.	U
37324-23-5	Aroclor-1262	50.	U
11100-14-4	Aroclor-1268	50.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766007

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A041,20101108B041

% Moisture: 4.5 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35.	U
11104-28-2	Aroclor-1221	35.	U
11141-16-5	Aroclor-1232	35.	U
53469-21-9	Aroclor-1242	35.	U
12672-29-6	Aroclor-1248	35.	U
11097-69-1	Aroclor-1254	35.	U
11096-82-5	Aroclor-1260	35.	U
37324-23-5	Aroclor-1262	35.	U
11100-14-4	Aroclor-1268	35.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A042,20101108B042

% Moisture: 12. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	38.	U
11104-28-2	Aroclor-1221	38.	U
11141-16-5	Aroclor-1232	38.	U
53469-21-9	Aroclor-1242	38.	U
12672-29-6	Aroclor-1248	38.	U
11097-69-1	Aroclor-1254	38.	U
11096-82-5	Aroclor-1260	38.	U
37324-23-5	Aroclor-1262	38.	U
11100-14-4	Aroclor-1268	38.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A043,20101108B043

% Moisture: 11. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	37.	U
11104-28-2	Aroclor-1221	37.	U
11141-16-5	Aroclor-1232	37.	U
53469-21-9	Aroclor-1242	37.	U
12672-29-6	Aroclor-1248	37.	U
11097-69-1	Aroclor-1254	37.	U
11096-82-5	Aroclor-1260	37.	U
37324-23-5	Aroclor-1262	37.	U
11100-14-4	Aroclor-1268	37.	U

1GA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A044,20101108B044

% Moisture: 6.5 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35.	U
11104-28-2	Aroclor-1221	35.	U
11141-16-5	Aroclor-1232	35.	U
53469-21-9	Aroclor-1242	35.	U
12672-29-6	Aroclor-1248	12.	J
11097-69-1	Aroclor-1254	35.	U
11096-82-5	Aroclor-1260	35.	U
37324-23-5	Aroclor-1262	35.	U
11100-14-4	Aroclor-1268	35.	U

KsA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A045,20101108B045

% Moisture: 10. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	37.	U
11104-28-2	Aroclor-1221	37.	U
11141-16-5	Aroclor-1232	37.	U
53469-21-9	Aroclor-1242	37.	U
12672-29-6	Aroclor-1248	37.	U
11097-69-1	Aroclor-1254	37.	U
11096-82-5	Aroclor-1260	37.	U
37324-23-5	Aroclor-1262	37.	U
11100-14-4	Aroclor-1268	37.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766012

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A046,20101108B046

% Moisture: 6.6 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	35.	U
11104-28-2	Aroclor-1221	35.	U
11141-16-5	Aroclor-1232	35.	U
53469-21-9	Aroclor-1242	35.	U
12672-29-6	Aroclor-1248	35.	U
11097-69-1	Aroclor-1254	35.	U
11096-82-5	Aroclor-1260	35.	U
37324-23-5	Aroclor-1262	35.	U
11100-14-4	Aroclor-1268	35.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766013

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A047,20101108B047

% Moisture: 9.6 Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	36.	U
11104-28-2	Aroclor-1221	36.	U
11141-16-5	Aroclor-1232	36.	U
53469-21-9	Aroclor-1242	36.	U
12672-29-6	Aroclor-1248	36.	U
11097-69-1	Aroclor-1254	36.	U
11096-82-5	Aroclor-1260	36.	U
37324-23-5	Aroclor-1262	36.	U
11100-14-4	Aroclor-1268	36.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766014

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A048,20101108B048

% Moisture: 16. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	39.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	39.	U
11096-82-5	Aroclor-1260	39.	U
37324-23-5	Aroclor-1262	39.	U
11100-14-4	Aroclor-1268	39.	U

LSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A049,20101108B049

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K8

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766015

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A049,20101108B049

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35L0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766017

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A051,20101108B051

% Moisture: 19. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KJA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35K9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766016

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A050,20101108B050

% Moisture: 80. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	160	U	UJ
11104-28-2	Aroclor-1221	160	U	UJ
11141-16-5	Aroclor-1232	160	U	UJ
53469-21-9	Aroclor-1242	160	U	UJ
12672-29-6	Aroclor-1248	160	U	UJ
11097-69-1	Aroclor-1254	160	U	UJ
11096-82-5	Aroclor-1260	160	U	UJ
37324-23-5	Aroclor-1262	160	U	UJ
11100-14-4	Aroclor-1268	160	U	UJ

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H35L1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: SDG No.: H35H7

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030766018

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 20101108A052,20101108B052

% Moisture: 19. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/09/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KSA
1/10/11

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
40755 / 1008-16	Upper Animas Mining District		
RPM/OSC Name			
Sabrina Forrest			
Contractor Laboratory	Contract No.	SDG No.	Laboratory DPO/Region
ALS Laboratory Group	EPW05026	H36L0	

Review Assigned Date: November 23, 2010 Data Validator: Lesley Boyd
Review Completion Date: December 17, 2010 Report Reviewer: Fred Luck

Sample ID	Matrix	Analysis
H36L0	Sediment	CLP – Aroclors
H36L1		
H36L2		
H36L3		
H36L4		
H36L5		
H36L6		
H36L7		
H36L9		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-15% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H36L0, consisted of 9 sediment samples for CLP Aroclor analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H36L5, H36L9	All compounds	UJ	Excessive moisture content in sample	12

1. HOLDING TIMES AND PRESERVATION

All holding times criteria were met.

AROCLOR: Yes_X_ No____

All preservation criteria were met.

AROCLOR: Yes___ No_X_

Comments: The soil samples were extracted within 14 days from sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the Chain-of-Custody record and case narrative, the two sample coolers were each received at a temperature of 7°C, which is outside the recommended temperature range of 4 ± 2°C. When the sample preservation criteria are not met, but the sample analysis and extraction are within the technical holding times then professional judgment is used whether to qualify the data. No action was taken since the preservation exceedence was minimal and the extraction and holding times were well within the established parameters.

2. INITIAL INSTRUMENT CALIBRATIONS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes_X_ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: The Mean Retention Times (RTs) for each of the three to five major peaks and the RT of the surrogates have been determined. The RT Window has been calculated as ±0.07 for each of the three to five Aroclor peaks and ±0.05 and ±0.10 for the surrogates tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), respectively.

At least one chromatogram from each of the Aroclor Standards yields peaks that give reflector deflections between 50-100% of full scale.

The concentrations of the five concentration level standards containing the Aroclors was prepared at the following concentrations 100, 200, 400, 800, and 1600 mg/mL and surrogates at 5.0, 10, 20, 40, and 80 ng/mL for TCX, and 10, 20, 40, 80, and 160 ng/mL for DCB.

The percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were within 20%. Summary forms and raw data were evaluated.

3. CONTINUING CALIBRATION VERIFICATION

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes_X_ No____

Comments: Continuing calibration standards were analyzed at the required frequency.

The %Ds were less than or equal to 15% for the opening Aroclor 1016/1260 standards. All %Ds for the closing Aroclor 1016/1260 standards were less than 50%.

No more than 14 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last mid-point concentration of the Aroclor Standards that ends an analytical sequence.

No more than 12 hours elapsed from the injection of the instrument blank that begins an analytical sequence and the injection of the last sample or blank that is part of an analytical sequence. Summary forms and raw data were evaluated.

4. BLANKS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: A Method blank was extracted along with the field samples at a rate of no more than 20 field samples per method blank and analyzed on the same GC/Electronic Capture Detector (GC/ECD) used for the field samples.

An acceptable instrument blank was run at the completion of the initial calibration sequence. Also an acceptable instrument blank was run at the beginning and ending of the analytical sequence for this sample delivery group.

A sulfur cleanup was not required; therefore a sulfur cleanup blank was not required for this sample delivery group.

5. SURROGATE SPIKES

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Two surrogate spikes, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB), were added to all samples, including Matrix Spike / Matrix Spike Duplicate (MS/MSDs), Laboratory Control Samples (LCSs), and blanks.

The surrogate percent recoveries (%Rs) were all within the QC limits (30-150%) for all samples. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSDs)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H36L4. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). The percent recoveries for the LCS analyses were within QC limits. Summary forms and raw data were evaluated.

AROCLOR: Yes_X_ No____

Comments: None.

8. REGIONAL QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

Regional QA/QC was conducted as initiated by the EPA Region 8.

AROCLOR: Yes___ No_X_

Comments: The SDG shows no indication of EPA Region 8 initiating any additional QA / QC.

9. GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes_X_ No____

Comments: The GPC calibration appears acceptable based upon review of the two.

10. TARGET COMPOUND IDENTIFICATION

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes_X_ No____

Comments: No problems with the identification of the sample results were found. All retention times were met for the detected results.

None of the target analyses were identified in any of the samples. The sample extract was not diluted for any of the samples.

11. GAS CHROMATOGRAPH / MASS SPECTROMETOR (GC/MS) CONFIRMATION

GC Confirmation of detected Aroclors has been confirmed

AROCLOR: Yes___ No_X_

Comments: No targeted Aroclors were detected in any of the field samples; therefore GC/MS confirmation is not required.

12. COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLs)

The reported quantitative limits and CRQLs are accurate and unqualified

AROCLOR: Yes___ No_X_

Comments: Compound quantitations, as well as CRQLs were adjusted according to the equations provided in the method.

The percent moisture for sample H36L5 was determined to be 74%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

The percent moisture for sample H36L9 was determined to be 78%, which exceeds the 70.0% level, but is less than 90%. The results for this sample are therefore to be qualified as UJ for each of the target analytes.

13. OTHER COMMENTS NOT ADDRESSED ELSEWHERE

1) Page 1 of the Evidence Audit Checklist (EAC) indicates three airbills are associated with this SDG, however documentation is only provided for Airbill Number 3430, which documents the shipment of four packages. The laboratory only documented receipt of two coolers, so it is unclear as to what the other two packages were that were included on the airbill.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R - Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

U J - The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.

N J - Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L0

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767001

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A031,19101112B031

% Moisture: 24. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L1

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767002

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A032,19101112B032

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L2

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767003

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A033,19101112B033

% Moisture: 48. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	63.	U
11104-28-2	Aroclor-1221	63.	U
11141-16-5	Aroclor-1232	63.	U
53469-21-9	Aroclor-1242	63.	U
12672-29-6	Aroclor-1248	63.	U
11097-69-1	Aroclor-1254	63.	U
11096-82-5	Aroclor-1260	63.	U
37324-23-5	Aroclor-1262	63.	U
11100-14-4	Aroclor-1268	63.	U

KSA
1/10/11

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L3

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767004

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A034,19101112B034

% Moisture: 20. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	41.	U
11104-28-2	Aroclor-1221	41.	U
11141-16-5	Aroclor-1232	41.	U
53469-21-9	Aroclor-1242	41.	U
12672-29-6	Aroclor-1248	41.	U
11097-69-1	Aroclor-1254	41.	U
11096-82-5	Aroclor-1260	41.	U
37324-23-5	Aroclor-1262	41.	U
11100-14-4	Aroclor-1268	41.	U

KSA
1/10/11

000528

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L4

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767005

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A035,19101112B035

% Moisture: 38. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	53.	U
11104-28-2	Aroclor-1221	53.	U
11141-16-5	Aroclor-1232	53.	U
53469-21-9	Aroclor-1242	53.	U
12672-29-6	Aroclor-1248	53.	U
11097-69-1	Aroclor-1254	53.	U
11096-82-5	Aroclor-1260	53.	U
37324-23-5	Aroclor-1262	53.	U
11100-14-4	Aroclor-1268	53.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L5

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767008

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A038,19101112B038

% Moisture: 74. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	120	U	UJ
11104-28-2	Aroclor-1221	120	U	UJ
11141-16-5	Aroclor-1232	120	U	UJ
53469-21-9	Aroclor-1242	120	U	UJ
12672-29-6	Aroclor-1248	120	U	UJ
11097-69-1	Aroclor-1254	120	U	UJ
11096-82-5	Aroclor-1260	120	U	UJ
37324-23-5	Aroclor-1262	120	U	UJ
11100-14-4	Aroclor-1268	120	U	UJ

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L6

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767009

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A039,19101112B039

% Moisture: 49. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	65.	U
11104-28-2	Aroclor-1221	65.	U
11141-16-5	Aroclor-1232	65.	U
53469-21-9	Aroclor-1242	65.	U
12672-29-6	Aroclor-1248	65.	U
11097-69-1	Aroclor-1254	65.	U
11096-82-5	Aroclor-1260	65.	U
37324-23-5	Aroclor-1262	65.	U
11100-14-4	Aroclor-1268	65.	U

KSA
11/15/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L7

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767010

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A040,19101112B040

% Moisture: 25. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor-1016	44.	U
11104-28-2	Aroclor-1221	44.	U
11141-16-5	Aroclor-1232	44.	U
53469-21-9	Aroclor-1242	44.	U
12672-29-6	Aroclor-1248	44.	U
11097-69-1	Aroclor-1254	44.	U
11096-82-5	Aroclor-1260	44.	U
37324-23-5	Aroclor-1262	44.	U
11100-14-4	Aroclor-1268	44.	U

KSA
1/10/11

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H36L9

Lab Name: ALS Laboratory Group Contract: EPW05026

Lab Code: DATAC Case No.: 40755 Mod. Ref No.: _____ SDG No.: H36L0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 1030767011

Sample wt/vol: 30.0 (g/mL) g Lab File ID: 19101112A041,19101112B041

% Moisture: 78. Decanted: (Y/N) N Date Received: 11/03/2010

Extraction: (Type) SONC Date Extracted: 11/04/2010

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/12/2010

Injection Volume: 2.0 (uL) GPC Factor: 2.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
12674-11-2	Aroclor-1016	150	U	UJ
11104-28-2	Aroclor-1221	150	U	UJ
11141-16-5	Aroclor-1232	150	U	UJ
53469-21-9	Aroclor-1242	150	U	UJ
12672-29-6	Aroclor-1248	150	U	UJ
11097-69-1	Aroclor-1254	150	U	UJ
11096-82-5	Aroclor-1260	150	U	UJ
37324-23-5	Aroclor-1262	150	U	UJ
11100-14-4	Aroclor-1268	150	U	UJ

KSA
1/10/11

APPENDIX C

Project Field Logbook

"Outdoor writing products...
...for outdoor writing people."

000534

RECYCLABLE

"Rite in the Rain" - A unique All-Weather Writing paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather.

Available in a variety of standard and custom printed case-bound field books, loose-leaf, spiral and stapled notebooks, multi-copy sets and copier paper.

For best results, use a pencil or an all-weather pen.

a product of

J. L. DARLING CORPORATION
Tacoma, WA 98424-1017 USA
www.RiteintheRain.com

Item No. 391
ISBN: 978-1-932149-22-7

Made in the USA
US PAT NO: 6,863,940

6 32281 39111 1

"Rite in the Rain"®
ALL-WEATHER
JOURNAL
No. 391

Upper Animas
Mining District
TDD No 1008-13

2

Dudevoir 9/1/10

M. Dudevoir spoke w/ Sabrina Forrest (EPA SAM)

- would like 2 START personnel to accompany Bill Schroder on sampling event for recon in Cement Creek / Animas River
- START people A. Longworth J. Gilbert or J. Christner
- other sites to check out
  - Mayflower tailings piles: leaking red into Animas - staining on banks
  - Kendrick Gelder smelter
  - Kitty Mack waste piles
- START can sign on EPA HASP for sampling/ recon event - will make own HASP for actual sampling
- goal is not to do a watershed listing ⇒ focus on listing individual mine sites

9/1/10

3

M. Dudevoir 9/13/10

M. Dudevoir & A. Longworth mob to Silverton

9/14/10

M. Dudevoir & A. Longworth accompany B. Schroder on EPA water sampling event → activities logged in EPA logbook

9/15/10

Same activities as previous day. Completed sampling.

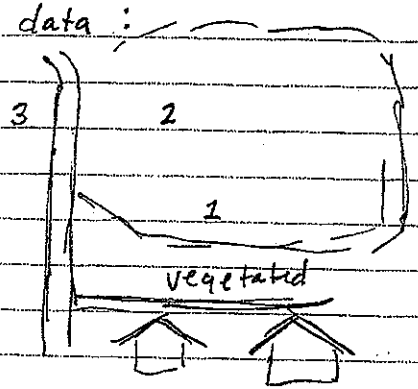
9/15/10

Dudevoir 9/16/10

09:00 Met w/ Lisa Richardson (BLM) to see Kendrick Gelder Smelter Waste, Kitty Mack + Mayflower Sunnyside tailings

Kendrick-Gelder is on N side of town. Large smelter waste pile (photos 100-0001 through 100-0007)

Used BLM XRF to collect in site data:

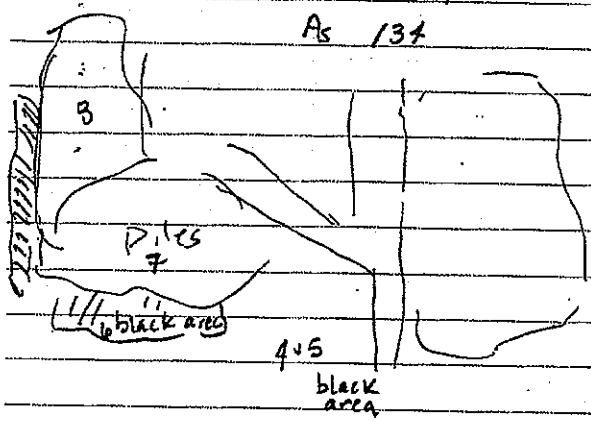


Smelter EPA.1 Pb 112 Co 158
As 21 Fe
Zn 83 Mn 776
Cu 114

Smelter EPA.2 Pb 97 Cu 96
As ND Co —
Zn 70 Mn —

Dudevoir 9/16/10

Smelter EPA.3 Pb 2279
As 134



Smelter EPA4 Pb 1327 Cu 1928
As 112 Co 1408
Zn 12.1K

Smelter EPA.5 Pb 1092 Cu 2330
As 127 Co 1203
Zn 10K

Smelter EPA.6 Pb 1144 Cu 1964
As — Co 1094
Zn 11.5K Mn 2804

Smelter EPA.7 Pb 97 Cu 142
As 17 Co 392
Zn 114 Mn

Smelter EPA.8 Pb 56
As 12
Zn 89

Dudevoir 9/16/10

construction project is ongoing at smelter site. Unclear where smelter waste piles are / were. Observed black spots in low areas w/ high readings for Zn + what appeared to be similar material + smelter waste mingled w/ fill piles. Foreman said they put 2" of onsite fill + 4" topsoil over site → residential development

* Marcy Bidwell - local
* Terry - foreman

post entry 9/20/10 - After site visit determined we were at the wrong location + the above described site is the Rose-Walsh smelter

9/20/10

Dudevoir 9/16/10

Sunnyside - Impoundment constructed by Sunnyside - Larry Perino (foreman) 1992 - 1998ish construction. Maybe constructed from wet material from mostly material from Gladstone waste ponds. (photos 100-0008 - 100-0012)

Water is seeping from piles under the road and ~~et~~ entering river. Extensive brown staining

pH = 5.83
Cond = 436 µS/cm
Temp = 9.2

Observed some red / brown sediment

* Slower water
  pH 5.2
  cond 1472 us/cm
  temp 11.3°C

water in sediment
  pH 4.163
  cond 1700 us/cm
  temp 16.5

Dudevoir 9/16/10

water in Animas on opposite side of bank
pH: 6.9
cond: 295 µS/cm
temp: 7.2°C
Judy Zimmerman
County Assessor has Sunnyside maps + aerial photos.
Tailings piles are pretty flat on top. All have drainage ditches behind them. Evidence of standing water on top of piles
Bill Simon - head of Animas Stakeholders has done work here.

Below mayflower Mill - dead area some red fines, lots of dead aspen trees. → off County Road 2
XRF of red fine material by the road Pb 1239 Zn 298
As 76 Cu 171

Dudevoir 9/16/10

Kitty Mack:
owner Jack Clark (part) owns + has not historically been friendly w/ EPA or BLM other owner Joe + Cheryl Jebsen (?)
387-5100 - home phone
large area of white waste w/ evidence of ATV/ dirt biking on the piles. Few inches under the white sand is red/brown fine material.
Homeowner (Cheryl J.) agreed to XRF in situ shots. Seemed agreeable to sampling + mentioned they would like to see material cleaned up
XRF in red material (~1" deep)
Pb 5111 Zn 231
As 152 Cu 617
XRF in white material (surface)
Pb 8403 Zn 869
As 1003 Cu 2368
Wet area by old RR grade that drains eventually to Animas.

10

Dudevoir 9/16/10

XRF in drainage area
Pb ~~ND~~ 361 Zn 1153 Ni 70
As 1153 Cu 1279 Co 140

XRF by RR grade
Pb 27.7K Zn 18.6K Mn 36K
As Cu 2763

property has beaver pond. Obs. fish in pond

XRF by pond
Pb 7226 Zn 1707 Mn 2552
As 81 Cu 1606

homeowner said in summer people fish in the area. Homeowner is on well water ~80' w/ no treatment

XRF in open area on W side (between RR + Animas) (white color)
Pb 14.2K Zn 24.7K Mn 75.6K
As 243 Cu 2859

XRF same spot - dark grey color
Pb 11.8K Zn 10.6K Mn 42.7K
As — Cu 1131 Fe 15K

XRF adjacent to Animas
Pb 2883 Zn 914 Mn 21.7K
As — Cu 341

Photo 100-0028 back to Animas facing property

11

Dudevoir 9/16/10

XRF in Animas fines
Pb 235 Zn 702 Mn 2802
As 54 Cu 90

XRF in red sediment on Animas banks
Pb 3021 Zn 2544 Mn 5102
As — Cu 127

Same location - more grey color
Pb 3076 Zn 2562 Mn 19.1K
As 141 Cu 325

Pile of waste rock adjacent to road + cement creek - observed staining on wall and erosion on pile (photo 100-0031). Collected GPS.

Waste rock in wooden cribbing / containment - on cement creek + road. Flow coming down the side. Opposite side of road → stained wetland area

adjacent to cribbing
temp - 15.80
pH - 6.77
cond - 1292

Dudevoir — MD — 10/6/10

Meeting w/ S. Forrest / A. Longworth
- Sampling to be pushed back because Sabrina will meet w/ stakeholders 10/18 + wants their buy in to FSP
- week of 1 Nov Sabrina will be there w/ Bill Schroder
- Kitty Mack - pull out as separate PA/SI
- Kendrick Gelder will be pulled out as separate PA/SI probably - may be owned by town. Sabrina will check on ownership/access
- Discussed listing will have to be based on wetlands unless we can prove animas below C.C is 3x above conc above CC
- GW wells are available - can't list based on GW bc no background sample available
- fishing observed b/t Arastra Gulch + Cunningham → upstream of C.C. in animas

Dudevoir — 9/6/10

- Anglo Saxon Mine - 319 reclamation by private owner (maybe?)
- also should investigate area around Co goldfields building
  ↳ kill zone around quonset hut possibility that some tailings were not removed
- watch out for area between Red + Bonita + Cement Creek ⇒ MSI has vegetation plots
- START will talk w/ Bryan williams about sample plan ⇒ Sabrina would like to list/score on fisheries too, not just wetlands.
- we think that means bracketing each gulch going upstream
- START will get prelim. plan together + call Sabrina on 9/7/10

Dudeweir

START determined listing on fisheries will require approx 2 x # of samples → bracketing gulches on lower Cement Creek. Only can list fisheries based on 3x background score in Animes. Proposed to Sabrina → do ER SAP to determine if fisheries sampling is required (do 3 samps on 10/8/10 - 10/9/10) Sabrina approved "ER" sampling to avoid unnecessary Cement Creek sampling if possible. Will send samps to ESAT + get ER SAP to Sabrina

10/7/10

10/7/10

Longworth Friday. 10/8/10

0630 A Longworth departs Denver for Silverton.

1300 A Longworth arrives in Silverton and tries to find appropriate locations for sampling upper Animas and Cement Creek. Cement Creek appears to be entering the Animas and running along the bank, sample of the Animas will be taken from the center of the channel just befor it begins to braid.

1430 Collect sample UASW001-08102010 and UASW001D-08102010.

Multimeter #3 used, calibrated for pH (3 point) and conductivity.

Temp = 10.2°C

pH = 4.96

Cond = 617 µS/cm

Water Samples filtered using 0.45 micron Geotech filter. UASW001-08102010 1x1L poly container, UASW001D-08102010 3x1L poly containers 1 for sample 2 for MS/MSD analysis. Samples preserved with HCl before cooling to 4°C

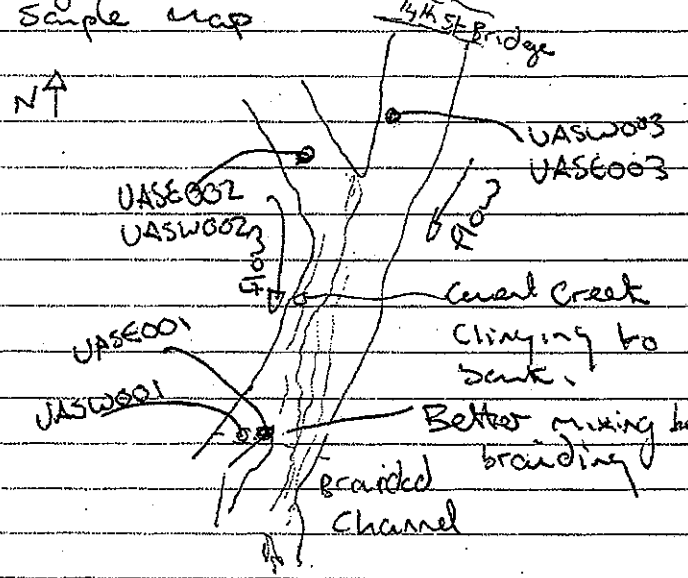
16

10/08/10 AL
08/20/10 AL

Longworth

1435 Collect samples UASE001_08102010 and UASE001D_08102010 from north side of island, below tree and between rocks. UASE001_08102010 = 1x250mL poly. UASE001D_0810210 = 3x250mL poly (1=sample, 2=MS/MSD) GPS of both locations taken, photographs also taken. GPS=#3

Sample map



1530 UASW002_0810210 taken from Cement Creek before confluence with the Upper Animas. Sample collected

17

Longworth 10/08/10

as before.

Temp = 12°C
pH = 3.2
Cond = 1010 µS/cm

1x1L poly preserved with HNO3 AL

1535 Collect sample UASW002_08102010 from Cement Creek, co located with UASE002_08102010. 1x250mL poly container collected with disposable scoop.

1600 Collect sample UASW003_08102010 from Upper Animas downstream of USGS station at 14th Street.

Temp: 10.5°C
pH: 7.91
Cond = 295 µS/cm

1605 Collect sample UASE003_08102010 1x250mL poly.

GPS and photos taken at all locations

1630 end of day on site.

10/25/10

07:30 Left OC for Silverton
04:00 Arrived in Silverton - spoke w/ Bill Simon arranged to use miners hospital for sample management
17:00 Calibrated pH meter
17:05 Collected UASE029 + UASW029
pH: 7.25
temp: 5.4°C
cond: 634 uS
photo - 100 - 1680

17:30 Collected UASW033 + UASE033 (Mineral Creek)
pH: 7.51
temp: 10°C
cond: 390 uS
photo: 100 ~~1682~~ 1681 (MD)
16:00 packed samples in cooler + secured in hotel room
Put GPS + pump batteries on charge
10/25/10
MD

10/26/10 M. Dudewa

08:00 Attempted to locate spot for sampling on Mineral Creek below water treatment plant could not get above Animas + below outfall → keep original 033 as sample
08:30 collected UASW032 and UASE032 (Animas downstream of Mineral Creek)
temp - less than ∅
pH 6.35 photo 100-1682
cond 522 uS
~~08~~:50 collected UASW034 / UASE034 at Animas upstream of Mineral Creek
temp: less than ∅
pH: 6.65
Cond: 0.59 mS
Photo 100-1683
09:37 Collected UASW ~~035~~ 001 (MD) and UASE ~~035~~ 001 → Animas downstream of Cement Creek
temp: below ∅°C
pH: 3.88
cond: 1139 uS
Photo: 100-1684

10/27/10 M. Dudevoir

09:25 Collected UASW005 + UASE005 collected duplicate UASW098 + UASE098, and MS/MSD at this location
temp 0.7°C cond 913 uS
pH 6.93 photo 100-1704

10:00 Collected UASE007 + UASW007 in american Tunnel discharge directly upstream of Cement Creek
temp 6.1 cond 2.38 mS
pH 5.73 photo 100-1707

10:05 Collected UAADO1 at American Tunnel portal
temp 7.1 cond 2.40 mS
pH 4.48 photo 100-1708
collected sed and isotope samples

10:15 Collected UASW008 + UASE008 at Cement Creek upstream of American Tunnel
temp below 0°C cond 1505 uS
pH 4.30 photo 100-1709

10/27/10 M. Dudevoir

10:45 Collected UASW009 + UASE009 on Cement Creek downstream of N. Fork C.C.
temp 0.5 cond 4.91
pH 4.32 photo 100-1710

10:55 Collected UASW013 + UASE013 on Cement Creek upstream of N. Fork C.C.
temp 0.0°C cond 12.69
pH 5.76 photo 100-1711

11:10 Collected UASW010 + UASE010 on N. fork of CC
temp 0.1°C cond 2.27 mS
pH 3.42 photo 100-1712+1713

13:00 Attempted to sample locations near Red + Bonita + Gold King 7 Level. Vehicles could not make it. Returned to offie at Miners Hospital to pack + label samples. Discussed Concern about collecting sediment above N Fork due to frozen conditions

10/28/10 M. Dudrevoir

08:30 Called Sabrina Forrest about sediment concern → not able to see creek enough to pick good sediment locations due to ice / snow. We will collect as much as we can but may not make it above R+B or Nogul. Today will hike to Gold King + Red + Bonita + get seds, water, soils. Will call SF tomorrow w/ progress report + plan

0945 C UASW014 and UASE014 below Red and Bonita on Cement Ck.
temp 0.3°C pH 5.97
cond 1352 µS · photo 100-1714

10:00 Collected UASW015 + UASE015 in channel below Red + Bonita
temp 2.0°C
pH 6.94
cond 2.14 mS
· photo 100-1715

10:30 Collected AD003 at Red + Bonita
temp: 5.5 C cond: 2.20 mS
pH: 6.32 · photo: 100-1716

M. Dudrevoir

11:00 Collected UASW016 + UASE016 in Cement Creek upstream of Red + Bonita
temp UR cond 398 µS
pH 5.35 · photo 100-1717
sediment limited at this location

11:30 Recollected sediment at N Fork of Cement Creek to get more fines → UASE060 (photo 100-1718)

11:38 Recalibrated pH meter due to higher than expected readings for pH at Red + Bonita. Meter appeared to be reading in normal range. R+B runoff may be diluted by runoff

Collected UAAD002 At 13:40 Gold King 7 Level adit
temp 7.9° cond 1806 µS
pH 4.31 · photo 100-1719

14:10 Collected UASW011 + UASE011 at road crossing below 7 Level → could not get below lower piles due to steep slope + snow

10/28/10 M. Dudevoir

temp 7.7°C cond 1774 µS
pH 3.93 photo 100-1721
14:25 Collected WASW012 + WASED12 above Gold King → attempt was made to get higher but creek was frozen over + no flow obs.
temp 1.8°C cond 374 µS
pH 4.26 photo 100-1722
not enough sediment to collect PCB jar at this location
16:30 Returned to office at Miners hotel to manage samples. Plan for tomorrow + Saturday:
- hike to Mogul (Grand Mogul) → samples, isotope samples, transducer maint.
- hike to 7 Level → isotope samples, transducer, modify transducer but
- Red & Bonita → isotope transducer, waste rock
- American tunnel → transducer / waste rock

10/28/10 M. Dudevoir

BW will return to Denver + drop samples off at ESAT - NW, MD + AK will stay in Silverton to complete remaining tasks

10/29/10

Meg P.

10/29/10 M. Dudevoir

0800 Calibrated pH meter
Called SF → updated on 10/28 progress + will sample Mogul / Grand Mogul today
H+S Melting: Slips / trips in snow. Watch snow conditions for slides. Hydrate. Stay warm
11:55 Collected UASW017 + UASE017 below Mogul wetland
temp 3.1°C cond 478 µS
pH 5.12 photo 100-1723
12:50 Collected UASW019 + UASE019 at Mogul wetland
temp 4.1 cond 1225
pH 3.32 photo 100-1724
collected duplicate UASE099 + UASW099 at this location with MS/MSD
13:30 Collected UASW018 + UASE018 upstream of Mogul wetland
temp 3.4 cond 485 µS
pH 4.23 photo 100-1725
there is approx 1' snow +/- 1726 on the ground + weather is sunny + in the 40s (°F)
⇒ Snowmelt in creek flow

10/29/10 M. Dudevoir

13:50 Collected UASW020 + UASE020 - upstream of Mogul Mine on Cement Creek
pH 5.69 cond 284 µS
temp 1.0 photo 100-1727
Also collected isotope sample at this location:
→ 2 1L poly w/no headspace
2 40oz VOA 3/4 full
Collected AD004 at Mogul Mine Adit (CCO2D)
temp 5.1 cond 717 µS
pH 3.98 photo 100-1728

Following sample collection batteries died in pH meter. Returned to town - could not find batteries in town + had to drive to Durango to get some ⇒ no more sampling for the day

10/29/10

10/30/10 M. Dudevoir

08:00 H+S Meeting - slips, trips & falls
careful driving on snowy roads,
hydrate, stay warm

09:15 collected isotope sample
at AD001 → American Tunnel

09:30 Shot XRF around portal
observed Pb ~ 200 - 600 ppm
Cobalt ~ 400 ppm

Parameters @ American Tunnel
temp 7.5 °C cond - 2.10 mS
pH 5.26

10:00 Collected SO001 at American
Tunnel - ground is very
frozen - sample 0-0.5"

10:05 Collected SO002 at American
Tunnel 0-1"
• photo 100-1729

On drive to Red + Bonita got
a flat tire - drove down
mountain to repair. Had to
go to Durango for a new
tire.

10/30/10

[signature]

10/31/10 M. Dudevoir

08:30 at Red + Bonita
downloaded transducer + put
on new dessicant.

09:15 Collected isotope sample at
adit ↘ temp 5.7 °C

09:15 collected SO003 0-8" top pH 6.70
pile; photo 100-1725 31 cond 25.3 mS

09:30 collected SO04 at 0-6" on
middle level of pile; photo 100-1732

09:40 collected SO05 at bottom level
of pile @ 0-6" . photo - 100-1733

11:10 Collected UASE021 + UASW021
downstream of Mogul North
Mine
temp 2.0 °C photo 100-1736
pH 5.94
cond 337 µS (micro)

11:20 Collected UASE022 + UASW022 in
Mogul North drainage
temp 3.7 °C
pH 4.96 photo 100-1737
cond 388 µS

11:40 Collected UASO006 at Mogul
North waste pile @ 0-6"
1 sample required because pile is small
photo: 100-1738, 1739, 1740, 1741

20

10/26/10 M. Dudevoir

09:45 Collected UASW002 + UASE002 at Cement Creek upstream of animas
temp: below Ø
pH: 3.60
cond: 970 µS
• photo 100-1685

10:15 Collected UASW003 + UASE003 on Animas River upstream of Cement Creek
temp: below Ø
pH: 7.61
Cond: 366 µS
• photo: 100-1686

10:35 Collected UASW035 + UASE035 downstream of Kendric Smelter
temp: ~~below Ø°C~~ 1.1°C
pH: 3.83
cond: 1166 µS
• photo: 100-1687
collected duplicate + MS/MSD at this location
Dup is UASW097 - UASE097

21

10/26/10 M Dudevoir

11:15 Collected UASW036 + UASE036 on Cement Creek above Kendrick Smelter
temp 1.8°C
pH 4.16
Cond 1162 µS
• photo 100-1688

11:50 Collected UASW037 + UASE037 on Cement Creek below Illinois Gulch
temp 3.6°C
Cond 1109
pH 4.20
• photo 100-1689
Did not collect UASE038/UASW038 because confluence of Illinois Gulch + Cement Creek appeared to be on private property w/ a no trespassing sign

12:15 Collected UASW039 + UASE039 → upstream of Illinois Gulch/downstream of Ohio Gulch
temp 3.0°C cond 1155 µS
pH 3.80 • photo 100-1690

000549

10/26/10 M. Dudevoir

12:20 Collected UASW040 + UASE040 discharge of Ohio Gulch
temp: less than 0°C
pH: 2.94
cond: 1139
• photo: 100-1691

12:30 Collected UASW041 + UASE041 on Cement Creek upstream of Ohio Gulch outfall
temp: 3.6
cond: 1170
pH: 3.70
• photo: 100-1692

13:00 - 13:50 lunch break

13:50 Collected UASW042 + UASE042 downstream of Anglo Saxon Mine on Cement
temp: 5.6
pH: 3.86
cond: 1161
• photo: 100-1693

14:00 Collected UASW044 + UASE044 upstream of Anglo Saxon Mine on Cement Creek (also downstream of Minnesota Gulch)
temp 5.6°C cond 1145 µS
pH 4.00 • photo 100-1694

10/26/10 M. Dudevoir

14:15 Collected UASW043 + UASE043 at Anglo saxon discharge - adjacent to cribbings
temp: 9.0°C cond: 1554
pH: 6.95 • photo: 100-1695

14:30 Collected UASW045 + UASE045 in Minnesota Gulch - upstream of culvert under road
temp 1.2°C cond: 503 µS
pH 4.41 • photo 100-1696

14:40 Collected UASW046 + UASE046 Cement Creek upstream of Minnesota Gulch
temp: 5.7°C cond: 1158
pH: 3.82 • photo: 100-1697

Did not collect UASW048/UASE048 → could not identify flow from ELK tunnel.

15:05 Collected UASW047 + UASE047 downstream of ELK Tunnel + Fairview Gulch on Cement Creek
temp: 5.7°C
pH: 3.80
Cond: 1152
• Photo: 100-1698

8/10/26/10 M. Dudevoir

Avalanche Mine Gulch → not flowing.

15:20 Collected UASW049 + UASE049 downstream of Georgia Gulch, relocated closer to Georgia Gulch
temp 5.0°C cond: 1139
pH: 4.05 · photo: 100-1699

15:40 Collected UASW050 + UASE050 upstream of Georgia Gulch on Cement Creek
temp: 4.7°C cond: 1144
pH: 4.17 · photo: 100-1700

16:40 Collected UASW055 + UASE0534 ~~downstream of~~ upstream of Prospect Gulch on Cement Creek ie Prospect Gulch discharge
temp: 1.5°C cond: 637
pH: 4.12 photo: 100-1701
UASW053, UASW055, UASE053 + UASE055 are all on private property → no access, so did not sample

17:00 conducted Recon on sites for tomorrow

1800 left site for the day

10/27/10 M Dudevoir

08:30 Collected UASW056 + UASE056 on Cement Creek downstream of dry Gulch
temp 0.2°C cond: 1186
pH 4.29 · photo 100-1702

Did not collect UASW057 + UASE057 because Dry Gulch was dry

08:45 Collected UASW058 + UASE058 on Cement Creek upstream of dry Gulch
temp 0.1°C cond 1215
pH 4.40 · photo 100-1703

09:00 Collected UASE004 + UASW004 on cement Creek downstream of confluence w S. Fork CC
temp 0.00 cond 1259
pH 4.81 · photo 100-1704

09:15 Collected UASE005 + UASW005 → Cement Creek upstream of S. Fork CC
temp pH: below 0°C cond: 1619
pH temp: 3.93 · photo: 100-1705

10/31/10 M. Dudevoir

1150 Collected UASE023 + UASW023 downstream of Queen Anne drainage on Cement Creek
temp 3.8°C
pH 5.71 . photo 100-1742
cond 341 uS

12:05 Collected UASE024 + UASW024 in Queen Anne drainage
temp 3.2
pH 5.40 . photo 100-1743
Cond 412 uS

12:20 Collected UAS0007 at Grand Mogul Stope west side
0-6" . photo 100-1744

12:25 Collected UAS0008 at Grand Mogul Stope E side
0-6" . photo 100-1745

12:40 Collected UASW051 + UASE051 very little sediment - sed we could collect is clinging to moss. Not enough sed's for PCBs. Location is at toe of Grand Mogul
temp 1.5°C cond 780uS
pH 3.14 . photo 100-1746

10/31/10 M. Dudevoir

Also collected isotope sample at this location

1300 Collected UASW030 + UASE030 on Cement Creek upstream of Grand Mogul - also collected isotopes
temp 0.7°C cond 274 uS
pH 6.73 photo 100-1749
* photo 1747 + 1748 → hike up to sample location
* photo 1750 → Grand Mogul + Mogul stope piles (foreground)
Very limited sed's at SE030 - not enough for BCB

1315 Collected UAS0009 on E side of Grand Mogul Piles
0-6" photo 100-1757

1320 Collected ~~UAS0010~~ (MD) UAS0010 on Grand Mogul piles - middle
0-6" photo 100-1758

1325 Collected UAS0011 on "Grand Mogul piles W side 0-6" photo 100-1759

1400 Collected UAS0012 on (MD) Mogul Mine piles W side, 0-6"
Photo 100-1760

10/31/10 M. Dudevoir

14:05 Collected UASO013 on Mogul Mine Piles → adjacent to shed 0-6", photo 100-1761

14:10 Collected UASO014 on Mogul piles E side 0-6" photo 1762 + 100-1763

1500 Tried to collect UASWOS1 + UASEOS1 → Mammoth Tunnel.* Observed 2 ponds (treatment cells). Could not locate an outfall from the lower cell. Cement Creek adjacent to the tunnel appeared red colored + obscured black moss + slime. Pond appears to be infiltrating. Did not collect sample because no sample point could be identified. Photos: 100-1764 + 100-1765

16:00 Could not reach sample locations above Grand Mogul Mine due to snow + potentially unsafe conditions ⇒ 025, 026, 027, 028, 031 - did not collect 029 → no discharge from G. Mogul Mine

*Determined UASWOS2 + UASEOS2 are not necessary w/ no flow from Mammoth Tunnel

11/1/10 M. Dudevoir

09:45 Collected UASW012 isotope sample → upstream Gold King

temp 2.6

pH 4.76

cond 353 uS

10:05 Collected UAAD002 isotope sample → Gold King adit

temp: 7.9°C

pH: 4.26

cond: 1618

Could not collect waste rock/soil sample at Gold King. EPA access agreement does not include soils. The only public area of waste pile is too steep + loose to sample

photo 100-1766 + 100-1767

12:00 Hiked to vehicle, returned to miners Hospital to pack supplies. Added ice to coolers + custody sealed for return trip to denver

14:00 Departed from Silverton

11/1/10

M.D.

NO ENTRIES TO FOLLOW

11/1/10

MO Lamp

APPENDIX D

Project Data Quality Objectives